# Strategic Planning FY 2020-2022

## Donna R. Hart, CIO
## HIS

12/21/2018

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# Agenda

- HIS Overview
- Summary of the Past
- Impact 2020 Progress-to-date
- HIS Capabilities in the Healthcare Landscape
- The Journey Ahead-2020-2022 Strategic Planning Recommendations
- Budget

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# HIS MISSION

"To deliver, optimize and sustain an integrated information technology system that will strengthen the ability of CCH to be a leading-edge institution in clinical services, education and research."

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# HIS VISION

"To improve and promote the utilization of health information technology, to its highest capacity, by both patients and health care providers, to optimize health outcomes and overall quality."

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# HIS Supports the Following Organizations
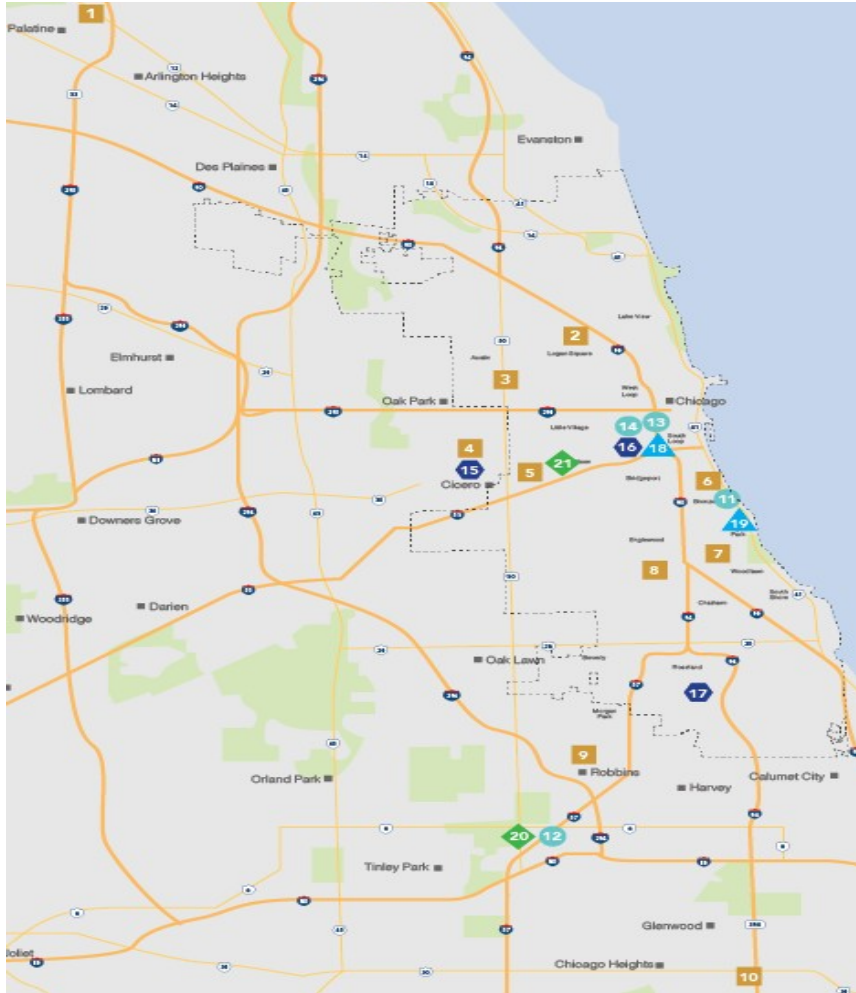
- John H. Stroger, Jr. Hospital
- Provident Hospital
- Ambulatory Community Health Network
- Cook County Department of Public Health
- Cermak Health Services
- Juvenile Temporary Detention Center
- Professional Building

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# HIS Healthcare Solution Services

| Consulting | Project Management | Technology | Application Management/Support |
|---|---|---|---|
| -Compliance<br>• Clinical Standardization<br>• MU Readiness<br>• Care Coordination (PCMH)<br>• Quality/Regulatory Reporting<br>-Financial/Business<br>• Revenue Cycle<br>• Audit Support<br>-Technology Solution<br>• New Technologies<br>• Industry Best Practices<br>• Product Development<br>-Clinical<br>• Clinical Documentation Optimization<br>• Enhanced clinical decision support<br>• Education and Training<br>• Improved user experience | -Planning<br>• Current state vs. Future state analysis<br>• Risk Analysis/ Management<br>• Integrated Testing Plan<br>-System Development/ Engineering<br>• System/Process design<br>• System/Process build<br>• System Testing<br>• System Training<br>-Implementation/ Deployment<br>• System Go Live Support<br>• Clinical Content<br>• Reporting<br>• Issues Management<br>-Post Implementation<br>• System Optimization<br>• System Upgrade Support | -Infrastructure<br>• Network Operations<br>• Hardware Management<br>• Data Center Operations<br>• Disaster Recovery<br>• Virtualization<br>• System Patch Management<br>-Security<br>• HIPAA Readiness/Data Encryption<br>• Identity Management<br>• Intrusion Detection/Prevention Management<br>• Access Management<br>-Service Management<br>• Web Services<br>• Intranet/Internet/Extranet<br>• Telephony/Communications<br>• Audio/Visual<br>-Integration Management<br>• Interface Engine Support<br>   • HL7/ADT/PP | -Application Management<br>• Application Upgrades and Optimization<br>• Production Systems<br>• Life Cycle System Management<br>• Change Management<br>• Workflow design/build<br>• Education/Training<br>• Product Build/Develop<br>-Support Services<br>• Help Desk Services<br>• Application Maintenance<br>• Web Services<br>• Document/Asset Management<br>• Patient Logistics Management |

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# HIS Supports Integration Between these Systems



Cook County Health & Hospitals System - System Flow Diagram
John H. Stroger, Jr. Hospital

**Interfaces Running Daily:** 325
**Average Daily Transactions:** 1,400,000

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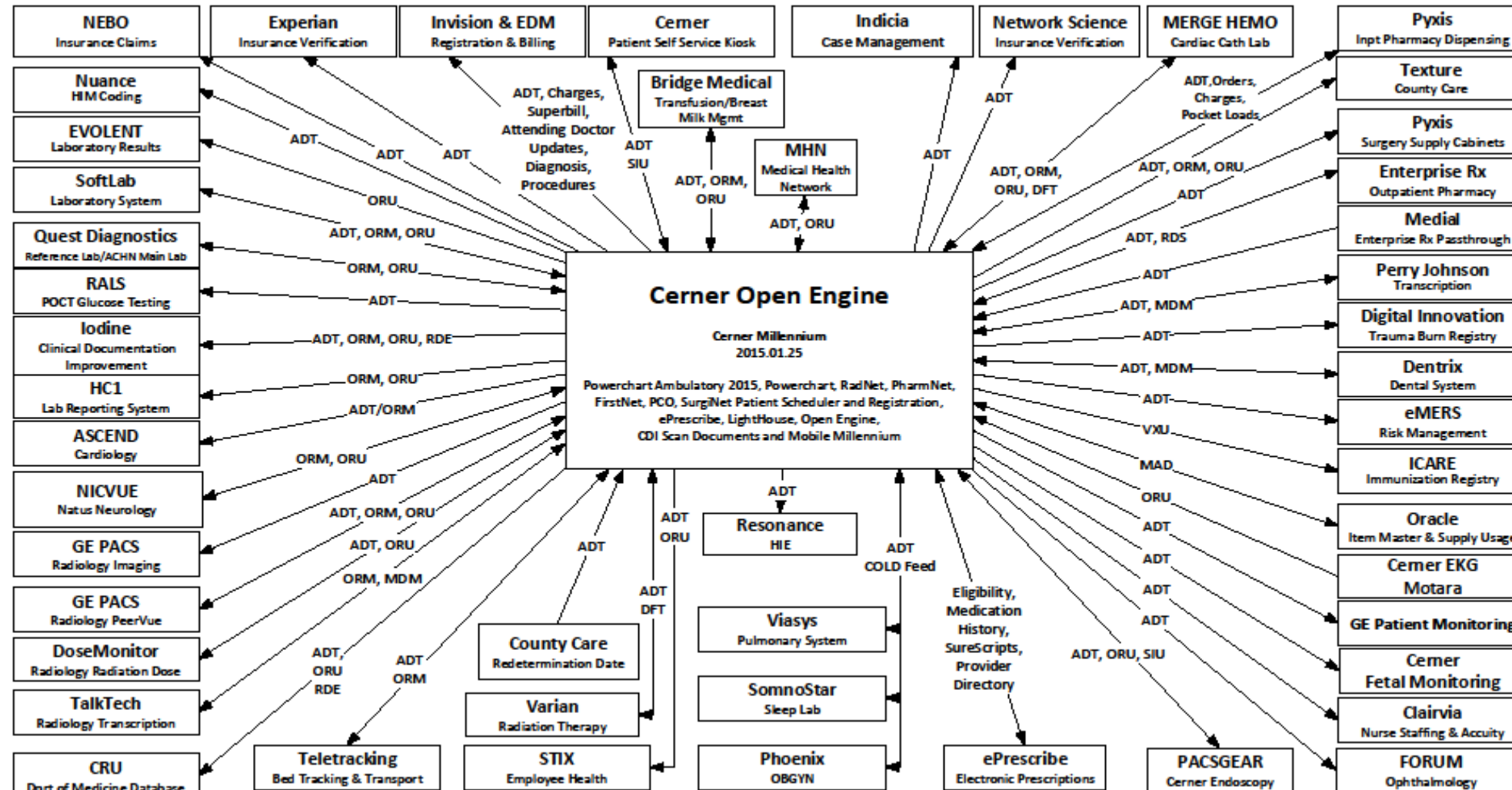
# HIS Supported Patient Activities

- Emergency Visits

- Inpatient Admissions

- Observation Discharges

- Outpatient Registrations

- Outpatient prescriptions filled daily

- Inpatient doses dispensed daily

- Fieldwork

# HIS Users and Systems Supported

- Total User Count: 8,455
  - ❑ Employees: 6,254
  - ❑ Contingent Workers (Contractors, Residents, etc.): 2,201
- End User Computers (PCs, Laptops, WoWs, etc.) : 8,440
- Mobile Devices (Cell Phones, Tablets, etc.): 515
- Server Count:
  - ❑ Physical: 91
  - ❑ Virtual: 484
- Peak Concurrent Cerner Users: 2,961
- 3 Data Centers (Stroger, Oak, Provident)
  - ❑ 777-Access Point
  - ❑ 165-Data Closets
- Email Accounts: 7,791
- Total Supported Applications: 234
- Interfaces Running Daily: 325
- 1,400,000 Average Daily Transactions



Clients

Internet

Server

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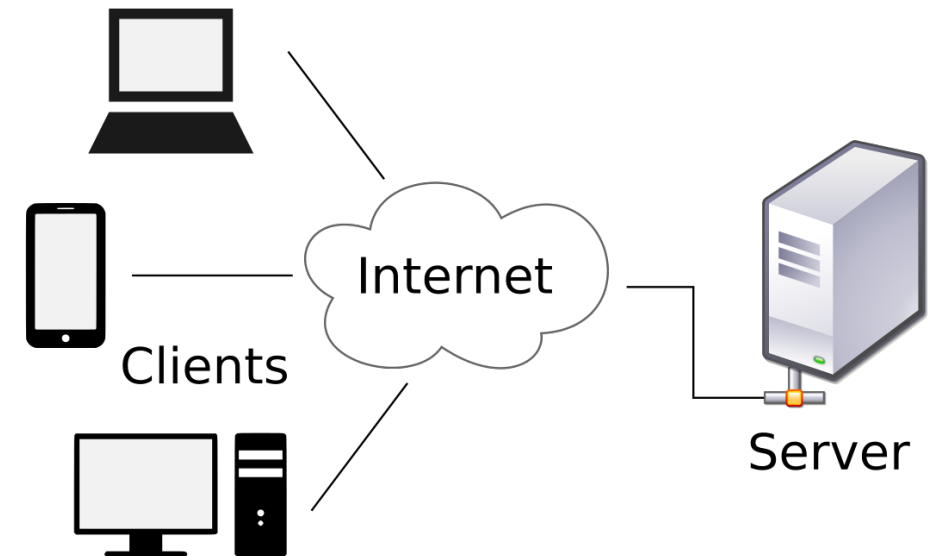
# FY 2010 - 2018

## The Past

*The Information Technology Strategic Push to MeaningfulUse Mandate*

| | |
|---|---|
| From hybrid of paper and electronic documentation | Implementation of the Electronic Medical Record |
| Physical request for patient information | Implementation of the Patient Portal |
| ~25 IT supported systems | ~200 IT supported systems |
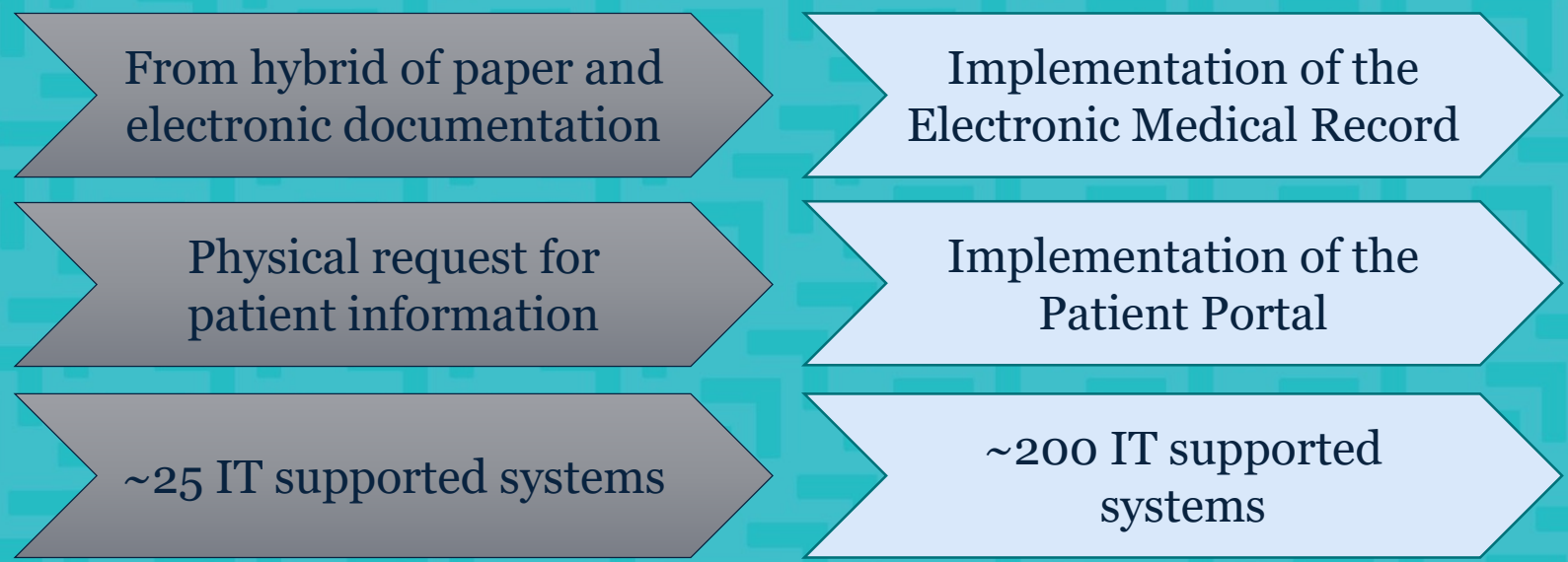
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# Summary of the Past
## Information Technology & Patient Centered Healthcare

Regulatory guidelines for meaningful use and other regulations drove IT into a leadership role.



Knowledge

Patient Experience

Information

Improve Health of Populations

Practice

Repeatable, Actionable Practices and Processes

Patient Centered Healthcare
Better Patient, Users Experience

Data

Reducing the Cost of Healthcare

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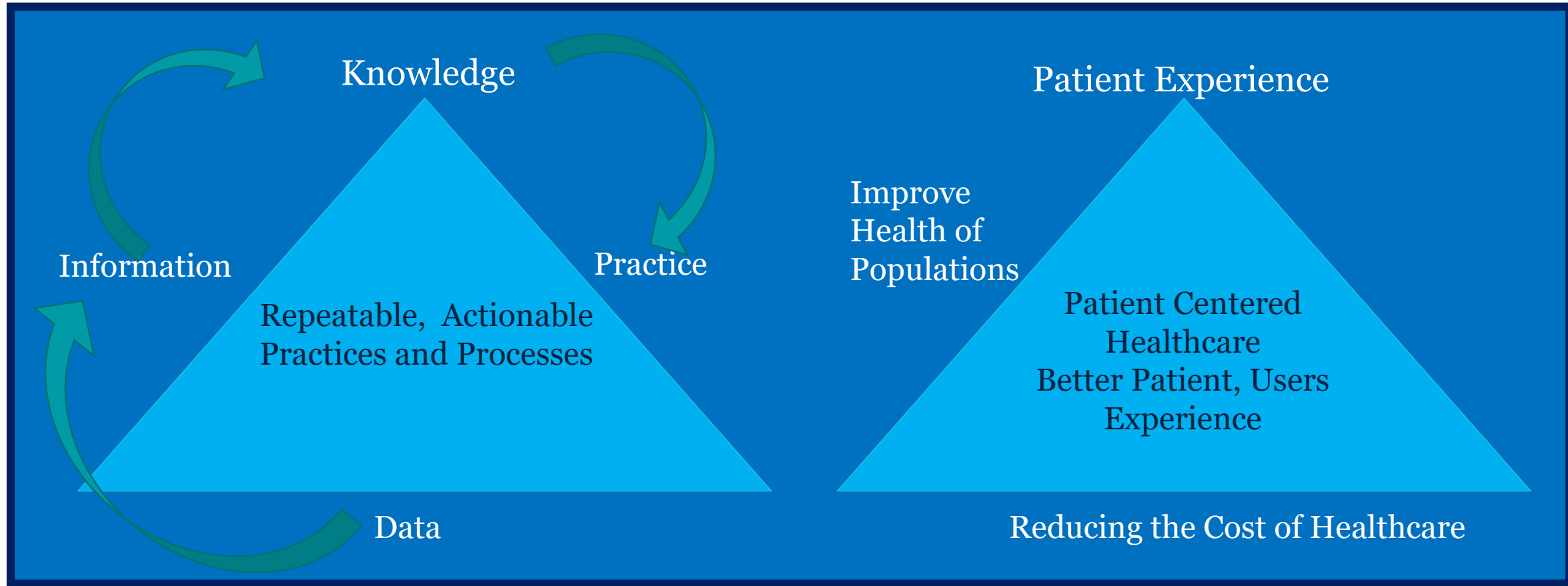
# Summary of the Past
## 2002-2010

- Hybrid paper and electronic record
- Focused on inpatient
- Paper clinical documentation in community clinics
- Patients physically visited clinics for medical information
- Phone calls & messages
- Few system-wide, integrated systems (25 Applications)
- Computerized Physician Orders (CPOE)
- Three separate patient accounting billing systems

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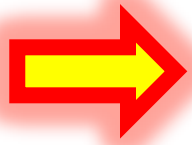
# Summary of the Past
## 2010 -2014

- Electronic Medical Records (EMR) across health system
- Ambulatory technologies (PowerChart) allowed for more efficient patient coordination, clinician decision-making, and billing
- Meaningful Use Inpatient
- Consolidated Financial Platform – Patient Accounting
- 200+ Centralized and Integrated applications and immediate access to information
- Development of CMIO (Chief Medical Information Officer) and Clinical Informaticist roles within HIS (Hospital Information System) as liaisons for physicians and nursing staff
- Developed clinical documentation to support PCMH (Patient Centered Medical Home certification)

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# Summary of the Past
## 2014 - 2018

- Implemented at JDTC Cerner PowerChart with behavioral health documentation and management system
- A link to eConsult is embedded in Cerner PowerChart
- A new Professional Building that modernizes healthcare and patient experience
- Supported Oracle Enterprise Resource Planning Solution
- Meaningful Use Inpatient & Outpatient ($33 million to CCH)
- HIMSS 7 Certification
- Integrated Ophthalmology Imaging and Testing Devices
- Self-Check-in kiosks
- Patient Portal (download the app or via the internet)-English and Spanish
- Increased interoperability & cost savings by creating IT partnerships with other hospitals

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# Summary of the Past
# Obtaining HIMSS Stage 7

## EMR Adoption Model<sup>SM</sup>

| Stage | Cumulative Capabilities |
|-------|-------------------------|
| Stage 7 | Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP |
| Stage 6 | Physician documentation (structured templates), full CDSS (variance & compliance), Closed Loop Medication Administration |
| Stage 5 | Full complement of Radiology PACS |
| Stage 4 | CPOE, Clinical Decision Support (clinical protocols) |
| Stage 3 | Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology |
| Stage 2 | CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable |
| Stage 1 | Ancillaries – Lab, Rad, Pharmacy - All Installed |
| Stage 0 | All Three Ancillaries Not Installed |

## PREMIER

"This recognition supports our embrace of health IT and demonstrates how Cook County Health leverages EMRs to improve clinical outcomes for an individual patient and also the health of our community through data,"
*John Jay Shannon, MD, CEO of CCHHS*

In achieving Stage 7, CCHHS was able to treat an entire population of patients who otherwise may have gone undetected. In identifying and treating these patients more effectively, CCHHS was able to improve the health and satisfaction of their patients with depression, reduce the frequency of return visits and as a result, save time, money and effort to direct toward improving other areas of healthcare. *HIMSS Analytics Magazine. April 2018*

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Just over 3 percent of U.S hospitals meet Stage 7

# Impact 2020 Recap

## Status and Results

- Deliver High Quality Care
- Foster Fiscal Stewardship
- Leverage Valuables Assets
- Impact Social Determinants
- Advocate for Patients

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# The Information Technology Impact 2020

## Progress & Updates

| Focus Area | Strategic Initiative | Notes |
|---|---|---|
| Deliver High Quality Health Care<br>Leverage Valuable Assets | Enable users to exchange and view patient data from different connected sources via a web-based portal allowing the aggregation and exchange of clinical health data.<br><br>• Implemented CommonWell | **Complete** |
| Deliver High Quality Health Care | Facilitate transmission of orders and results between different electronic medical record systems.<br><br>• Implemented Connectivity Hub in Cerner for external partners | **Complete** |

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# The Information Technology Impact 2020

## Progress & Updates

| Focus Area | Strategic Initiative | Status |
|---|---|---|
| Deliver High Quality Health Care | Implement a fully electronic medical record across the health system.<br>• Achieved HIMSS 7 Certification for Hospital and Ambulatory | **Complete** |
| Deliver High Quality Health Care | Provide clinicians with a mobile solution that provides the ability to communicate, take clinical images, and receive clinical information in a HIPAA compliant fashion.<br>• Implement Cerner CareConnect | **In Progress** |

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# The Information Technology Impact 2020

Progress & Updates

| Focus Area | Strategic Initiative | Status |
| --- | --- | --- |
| Foster Fiscal Stewardship | Leverage other information technology initiatives such as Countywide Enterprise Resource Planning (ERP) implementation, Vizient (GPO) data and Clairvia (nursing management). | **Complete/On-going** |
| Leverage Valuable Assets | Enable providers to improve the management of patients with chronic disease conditions and optimize the<br><br>• Implemented HealtheIntent | **On-going** |

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# The Information Technology Impact 2020

## Progress & Updates

| Focus Area | Strategic Initiative | Status |
|---|---|---|
| Impact Social Determinants of Health | Enable providers to improve the management of patients with food insecurity, transportation and care coordination needs<br>• Implemented Health Risk Screening with referrals to internal services and resources | **On-going** |
| Advocate for Patients | Provide patients with a mobile Patient Portal.<br>• Enhanced Patient Portal to allow for additional results, communicate with the care team, request medication renewals and request appointments in English and Spanish. | **On-going** |

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\* Applies to multiple Focus Areas

# FY 20192022

## The Future

*The Information Technology Landscape and Patient Centric Care*

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# Environmental Scan of Market, Best Practices, Trends

**Telehealth takes center stage-** more medical connected devices by 2020.

**Artificial Intelligence-** by 2019, there will be 50 percent increase in the use of robots to deliver medications and supplies within the hospitals.

**Wearables for health and wellness-** Fitbits, smart watches, fitness trackers to monitor fitness e.g. Apple Watch's heart features including EKG.

**Prescriptive analytics-** will help determine what should go into the care plan for a specific type of patient.

**Interoperability-** with better capabilities to share information across the healthcare spectrum, a patient's data follows them wherever they go.

**Predictive analytics-** encompasses data mining, predictive modelling, and machine learning, that analyze current and historical facts to make predictions on the likelihood of future outcomes.

Sources; Modern Healthcare; Deloitte; IT Healthcare News; CCH partners

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# SWOT Analysis

Strengths, Weaknesses, Opportunities, and Threats

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# SWOT Analysis

## Strengths

- Integrated EMR across all facilities
- Alignment of technology to business
- High performing teams
- Cerner Enterprise Interoperability
- Ability to work outside of standard application packages
- Meet business and regulatory requirements (Meaningful Use, Joint Commission)
- Physicians and Nurses within HIS Team

## Weaknesses

- Limited resources in a growing industry
- Industry EMR lack of agility
- Employee & IT skillsets-Emerging Technologies

## Opportunities

- AI/Predictive Analytics
- Internet of Things (IoT)
- Telehealth
- Alignment with Strategic Plan
- Strengthen Cybersecurity
- Training
- Improve collaboration between IT and business process owners
- Patient Engagement and Learning

## Threats

- Cybersecurity
- Competition for IT Staff
- Disruptive Innovation
- Lack of coordination between departments

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# The Road Ahead 2020-2022
## Information Technology
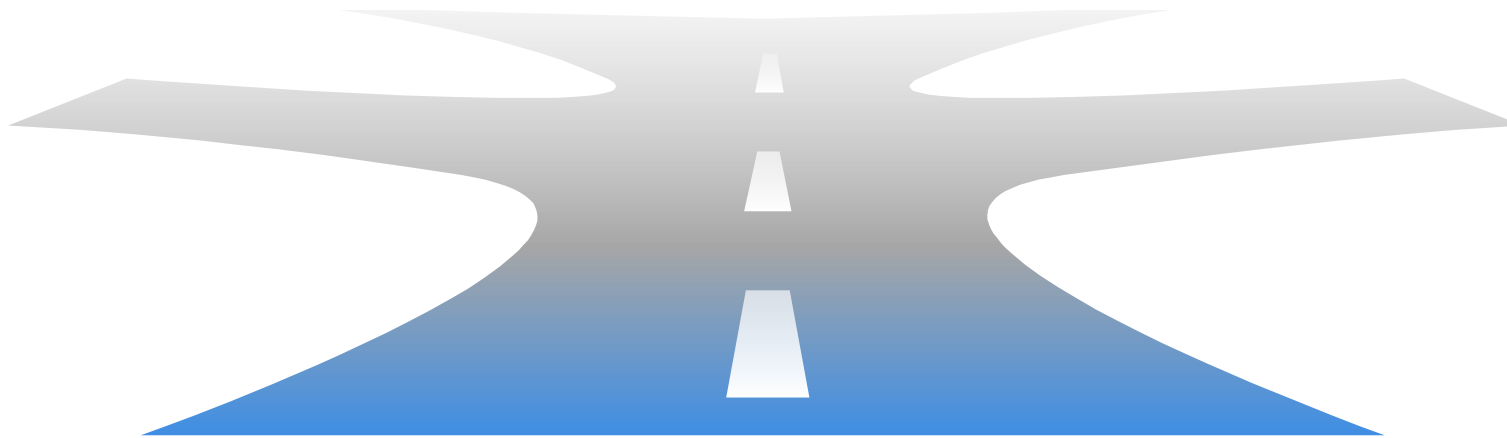
**Patient Centric/Quality Standards**

- Improve patient experience
- Operational efficiency

**Data/Ambulatory Focused**

- Leverage technologies
- Support expansion of PCMH
- Data in real time
- Innovation

**Financial Integration/Population Health**

- Adjust to New Financial Models

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# Deliver High Quality Care
## FY2020-2022 Strategic Planning Recommendations

2020-2022
- Partner with Quality to enhance quality metrics for the organization
- Partner with clinicians to enhance secure interdisciplinary communication (CareConnect)
- Partner with clinicians to improve patient communication (portal, texting)

Enabling Technologies
- Telehealth
- Predictive Analysis (technology not only identifies issues but is used to prevent health issues)

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# Grow to Serve and Compete
## FY2020-2022 Strategic Planning Recommendations

2020-2022
- Support organization improve innovative patient centered services (e.g. self-enrollment patient portal, online bill pay, online financial counseling)
- HIMSS For Infrastructure certification: INFRAM focuses on five technical areas: mobility, security, collaboration, transport and data center
- Implementation of 8 additional registries for Population Health
- Increasing community health care facilities
- Leverage IT to improve revenue capture

Enabling Technologies
- Revenue Cycle process improvements
- Internet of Things (IoT) home monitoring
- Telehealth to the clinic and the home

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# Leverage Valuables Assets
## FY2020-2022 Strategic Planning Recommendations

2020-2022
- Modernization of our Revenue Cycle and process
- Leveraging IT in the expansion of clinical services at Provident
- Modernizing community health facilities

Enabling Technologies
- CCH managed wide-area network 24/7/365
- Natural Language Processing systems, i.e. Dragon Naturally Speaking
- Free Guest Wi-Fi access across CCH
- Leveraging Voice Over Internet Protocol (VoIP) to lower cost, improve portability, increase functionality
- Refreshed network infrastructure enabling faster network speeds, high availability, and next generation technologies

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# Budget
## Funding the Future

| FY19 HIS Budget | | |
|---|---|---|
| | County Employees | Contracted Employees |
| **Number of HIS Positions** | 73 | 111 |
| **Number of System Wide Positions** | 7,239.56 | |
| **HIS Employees as a % of Total FTE's** | 1.01% | |
| | | |
| **540135 - Working Capital of Data Processing Equipment (Cerner budget, etc.)** | $83,155,602 | $25,243,000 |
| **12555 - Health Information Systems (HIS) (salaries & operating budget)** | $7,655,976 | |
| | **$90,811,578** | |
| **FY19 HIS Budget** | | |
| | | |
| **Total FY19 Budget** | **$2,690,454,544** | |
| HIS %of Budge | 3.38% | |

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# Thank you.

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